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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,977	07/31/2001	Robert E. Colling	2580	6457

27727 7590 03/29/2004

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EXAMINER	
KITOV, ZEEV	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/920,977	COLLING, ROBERT E.	
	Examiner	Art Unit	
	Zeev Kitov	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Objection

Claim 1 is objected to due to a following phrase: "shuts down chemical energy flow from the battery plates to the battery posts" (emphasis added). The phrase should be corrected as follows: " shuts down electrical energy flow from the battery plates to the battery posts".

Claim 17 is objected to due to a following phrase: "when the battery is to be place in service (emphasis added). Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

1. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). A reason for that is a following phrase: "the metal oxide semiconductor field effect transistor being electrically or electronically

connected (emphasis added)". It is not clear what kind of connection is assumed under this name. The recited term is not used in Electrical Engineering literature. The term is indefinite because the specification does not clearly redefine the term. For purpose of Examination a patentable weight was not given to the recited phrase.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim recites a following: "signal means comprises means for receiving a signal from a satellite positioning system". A Disclosure provides neither structural details of the means, nor the way of their functioning.

4. Claims 15 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 15 recites a following: "signal means further comprises encryption of a emergency signal to prevent unauthorized battery

shutdown". A Disclosure provides neither details of the means, nor the way of their functioning.

Claim 16 recites a following: "signal means further comprises a rotating frequency means for preventing unauthorized battery shutdown". A Disclosure provides neither details of the means, nor the way of their functioning.

Means plus function form

The Claims 1 – 11 and 14 – 17 are presented in a means and function form. According to 35 U.S.C. 112, 6th paragraph, "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof" (emphasis added).

The "means or step plus function limitation should be interpreted in a manner consistent with the specification disclosure. Rejection of Claim 1 in an instant Office Action is presented in accordance with the rule, i.e. by reciting the equivalent elements.

Factors that support an equivalency conclusion:

A) The prior art element performs the identical function specified in the claim in substantially the same way, and produces substantially the same results as the corresponding element disclosed in specification. *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 54 USPQ2d 1308 (FED. Cir. 2000).

B) A person of ordinary skill in the art would have recognized the interchangeability of the element shown in the prior art for the corresponding element disclosed in the specification. *Caterpilar Inc. v. Deer & Co.,* 224 F.3d 1374, 56 USPQ2d 1305 (FED. Cir. 2000).

C) There are insubstantial differences between the prior art element and the corresponding element disclosed in the specification. *IMS Technology, Inc. v. Haas Automation, Inc.,* 206 F.3d 1422, 1436, 54 USPQ2d 1129, 1138 (Fed. Cir. 2000).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 11 – 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modgil (US 6,625,553) a view of Hwa et al. (6,121,750). Modgil discloses most of the elements of the claim including an electronic battery kill switch system for a vehicle having a vehicle electrical system and having a battery, with inherently has plates and terminal posts, the kill switch system including: a metal oxide semiconductor field effect transistor (element 1224 in Fig. 12) electrically connected between a battery terminal post and the vehicle chassis ground and having a gate, equivalent of signal means (element 300 in Fig. 12) supplying an emergency signal to the MOSFET control input (transistor 1226 in Fig. 12), wherein, in response to the

emergency signal, the transistor (element 1226 in Fig.12) is turning off the gate of the metal oxide semiconductor field effect transistor so that the battery terminal post to the chassis ground path is interrupted, wherein the battery is disconnected from the vehicle electrical system (col. 19, lines 51 – 63). As to silicon controlled rectifier of the Claim, a criticality of this particular element was not disclosed by the Applicant. Examiner takes an Official Notice that use of SCR for control of the MOSFET transistor is a common widely practiced engineering solution. The Modgil reference provides an SCR functional equivalent (element 1226 in Fig. 12).

However, it does not disclose the switching element incorporated into the battery. Hwa et al. disclose the switching element (element 32 in Fig. 4) incorporated into the battery housing and controlled by the microprocessor, which is too incorporated into the battery (Fig. 1 – 3, col. 2, lines 24 – 63). Since the electrical current flows in a closed loop, which involves all elements of the battery, such as battery plates and battery posts, disconnection of the battery current flow inherently shuts down electrical energy flow from the battery plates to the battery posts.

Both references have the same problem solving area, namely providing reliable battery service for the car. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Modgil solution by incorporating the switch into the battery housing, because as Hwa et al. state (col. 1, lines 14 - 31), the dual batteries set controlled by the microprocessor can easily adjust itself to changing operational conditions and thus enhance the reliability of the battery

use. Additionally, the Hwa et al. solution requires only two-pole intelligent battery system.

Regarding Claim 11, Modgil discloses the signal means having an equivalent of the Applicant amplification means (element 1226 in Fig. 12).

Regarding Claim 12, Modgil discloses a circuitry shunting the gate of said metal oxide semiconductor field effect transistor to ground so that a drain-source connection of the metal oxide semiconductor field effect transistor is deactivated (element 1226 in Fig. 12).

Regarding Claim 13, Modgil discloses deactivation process of the drain-source connection of the metal oxide semiconductor field effect transistor by disconnecting battery current flow on the negative side pole of the battery, i.e from the negative pole of the battery to the chassis (see Fig. 12). In the Modgil system modified according to Hwa et al. a disconnection will be performed inside the battery. A motivation for modification of the primary reference id the same as above.

Regarding Claim 14, Modgil discloses a zener diode for protecting the metal oxide semiconductor field effect transistor from high voltage (element 1232 in Fig. 12). Examiner takes an Official Notice that the gate of the filed effect transistor is the more sensitive element to an excessive voltage, that the source-drain path. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the gate protecting zener diode, because as was stated above, the gate terminal of the field effect transistor id the most sensitive to the excessive voltage part of the transistor.

Regarding Claim 17, Modgil discloses an activation switch with means for energizing the gate of the metal oxide semiconductor field effect transistor (elements 100 and 108 in Fig. 1) to restart the battery service (block 1358 in Fig. 13D).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Modgil a view of Hwa et al. and further in a view of Darby et al. (US 5,825,098). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claim 2, they do not disclose the signal means including an airbag deployment. Darby et al. disclose means for sensing an airbag deployment. Its ECU acceleration sensor (element 340 in Fig. 1) is the one that initiates an activation of both airbag (elements 410 and 420 in Fig. 1) and battery disconnection (element 450 in Fig. 1). Both references have the same problem solving area, namely providing a safety to the car passenger. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution b y adding the airbag and using the same sensor for activation of both devices, because (i) the airbag today is a standard element of the car safety and its installation is mandatory, (ii) use of the same sensor for activation of both systems would save an equipment.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Modgil a view of Hwa et al. and further in a view of Goddwin (US 3,590,798). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claim 3, they do not disclose the signal means comprises means for sensing an

abnormal engine condition. Goodwin disclose the means for sensing an abnormal engine condition, such as abnormal oil pressure or coolant temperature conditions in lubricating and cooling system (see Abstract). Both references have the same problem solving area, namely providing safety for the passengers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the sensors of the abnormal engine conditions according to Goodwin, because further running the car with the abnormal engine conditions is dangerous.

Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modgil a view of Hwa et al. and further in a view of Aichele et al. (US 4,856,850). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claims 4 and 6, they disclose neither means for sensing an abnormal electrical condition nor means for sensing contact of the vehicle with a conflicting ground state. Aichele et al. disclose the equivalent means for sensing an abnormal electrical condition, such as a short circuit and equivalent means for sensing contact of the vehicle with a conflicting ground state (reverse polarity) (element 16 in Fig. 1). Both references have the same problem solving area, namely providing safety for the car passengers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the short circuit and reverse polarity sensor, because as well known in the art, such

conditions can severely damage the towing car electrical system and as Aichele et al. state (col. 1, lines 8 – 41), it can interfere with the brake system of the towing car.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Modgil a view of Hwa et al. and further in a view of Non et al. (US 3,940,164). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claim 5, they do not disclose a switch connected to a seatbelt pendulum for sensing an impact. Non et al. discloses a switch operatively connected to a seatbelt pendulum for sensing an impact (element 21 in Fig. 3, col. 6, lines 27-37). Both references have the same problem solving area, namely providing a safety for the vehicle passengers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the seatbelt pendulum as a collision sensor, because according to Non et al. (col. 1, lines 28 – 55, the seatbelt pendulum sensor is well known in the art and is used in some vehicles for seatbelt restrain at the time of an accident, so use of the existing seatbelt pendulum sensor for collision detection would reduce a cost of the system.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modgil a view of Hwa et al. and further in a view of Sakai (JP409249045A). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claims 7 and 8, they disclose neither means for detecting a fuel leak, nor for sensing a fuel pump outlet pressure. Sakai discloses preventing driving a vehicle after

collision in a case of a fuel leak. It further discloses detecting a fuel leak by a pressure sensor. Both references have the same problem solving area, namely providing a safety for car passengers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by connecting the existing pressure sensor to the Modgil car battery disconnection system, because as well known in the art and emphasized by Sakai (see an Abstract), driving the car with the fuel leak is dangerous.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Modgil a view of Hwa et al. and further in a view of Stolar et al. (US 4,619,231). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claim 9, they do not disclose means for receiving a signal from law enforcement officials. Stolar et al. disclose equivalent means for disabling the vehicle by the law enforcement officials (element 64 and 22 in Fig. 1, col. 1, lines 12 – 25). Both references have the same problem solving area, namely providing a transportation safety. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the equivalent means for disabling the vehicle according to Stolar et al., because as Stolar et al. state (col. 1,lines 12 – 25), there is necessity to disable some vehicles by the law enforcement officials, to maintain transportation safety.

Claim 10 is rejected under 35 U.S.C. 103(a), as best understood, as being unpatentable over Modgil a view of Hwa et al. and further in a view of Japanese Application (JP-07156721A). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claim 10, they do not disclose means for receiving a signal from a satellite positioning system. The Japanese Application discloses equivalent means for disabling the vehicle upon receiving a signal from a satellite positioning system (see an Abstract). Both references have the same problem solving area, namely providing a vehicle security. Examiner takes an Official Note that the GPS is used today for detection of unauthorized use of vehicle, Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the vehicle disabling upon reception a signal from satellite positioning system, because unauthorized use of vehicles (theft) is a huge problem causing enormous financial losses to a society.

Claims 15 is rejected under 35 U.S.C. 103(a), as best understood, as being unpatentable over Modgil a view of Hwa et al. and further in a view of Bellin (US 6,346,890). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claim 15, they do not disclose encryption of an emergency signal. Bellin discloses the encryption of an emergency signal (col. 20, line 34 – col. 21, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the encryption to the emergency signal to prevent unauthorized battery

shutdown, because otherwise the means of stopping the car by sending the emergency signal will be inevitably abused by criminals.

Claim 16 is rejected under 35 U.S.C. 103(a), as best understood, as being unpatentable over Modgil a view of Hwa et al. and further in a view of Stansell et al. (US 6,160,841). As was stated above, Modgil and Hwa et al. disclose all the elements of Claim 1. However, regarding Claim 16, they do not disclose a rotating frequency means. Stansell et al. disclose a rotating frequency means (col. 10, lines 50 – 65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Modgil solution by adding the encryption by rotating frequencies to the emergency signal to prevent unauthorized battery shutdown, because otherwise the means of stopping the car by sending the emergency signal will be inevitably abused by criminals.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (703) 872-9306 for all communications.

Z.K.

03/15/2004